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TWO NEW SPECIES OF TYPHLODROMUS FROM CALIFORNIA

(Acarina: Phytoseiidae)[1]

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While on a recent visit to California I collected Phytoseiidae in the area around Riverside and San Bernardino and also examined several excellent collections of these predacious, plant-inhabiting mites. Two hitherto unknown species were recognized, and descriptions and figures of these are given herein with specific diagnoses and an indication of their places in the keys to the family recently prepared by Chant (1960). Both species are of the subgenus *Amblyseius* as recently defined (Chant, 1957).

Typhlodromus (Amblyseius) newelli Chant, new species

(Figs. 1–3)

Female.—Length 420 μ; width 290 μ. *Dorsal shield* smooth, with 17 pairs of setae, of which nine are in the lateral row, two in the median, and six in the dorsal (Fig. 1). All dorsal (D) setae minute except D_1. Seta M_1 minute; M_2 longer, equal to L_6. Seta L_1 longer than D_1, L_2, or L_3. Setae L_2 and L_3 equal. Seta L_5 minute, much shorter than L_6. Seta L_9 the longest on the shield. Setae S_1 and S_2 on interscutal membrane. *Sternal shield* with only two pairs of setae. Two pairs of small metasternal plates, each with a seta. *Genital shield* normal, with a pair of setae. *Peritremal plates* broad, extending posteriorly around bases of coxae IV and anteriorly to the level of setae D_1. *Metapodal plates*, two pairs, one minute. *Ventrianal shield* (Fig. 2; 140 μ long, 115 μ wide) approximately rectangular with posterior margin rounded and lateral margins concave, and three pairs of preanal setae, a pair of pores, and a crease around anal opening. Four pairs of setae surrounding ventrianal shield; one (VL_1) long, curved. *Gnathosoma* and *maxillary palps* normal for the genus. Fixed digit of chelicera multidentate. *Coxae* all slightly reticulated. *Leg IV* with three macrosetae (Fig. 3), genu, tarsus, and basitarsus.

Male.—Unknown.

Diagnosis.—The relative lengths of setae L_2 and L_3 and of L_5

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and L_6 make this species distinct. Differences from similar species are: from *T. (A.) neomexicanus* Chant (1960) by L_2 being equal to L_3; from *T. (A.) lichenis* Chant (1960) by L_1, L_9, and M_2 being longer and by having D_5; from *T. (A.) graminis* (Chant) by many setae being longer, by having only two pairs of setae on the sternal shield, and by the shape of the ventrianal shield; from *T. (A.) septa* (Garman) by L_5 being much shorter and by having D_5; and from *T. (A.) exopodalis* Kennett by having only two pairs of setae on the sternal shield, by having D_5, and by L_6 being longer. In my keys this species comes to *T. (A.) graminis.*

Holotype female (Canadian National Collection No. 6802) and nine other females were collected from litter "below edge of cliff" at PALOS VERDES ESTATES, LOS ANGELES COUNTY, CALIFORNIA, in June, 1956, by Dr. I. M. Newell, in whose honor the species is named. Two additional females were collected by Dr. Newell from the type locality in December, 1955, and March, 1956. One specimen was collected from magnolia 10 miles south of Santa Rosa, Sonoma County, California, in April, 1957, by Mr. R. O. Schuster, and a further specimen from buckeye on the University of California campus, Berkeley, in March, 1953, by Mr. N. Walker.

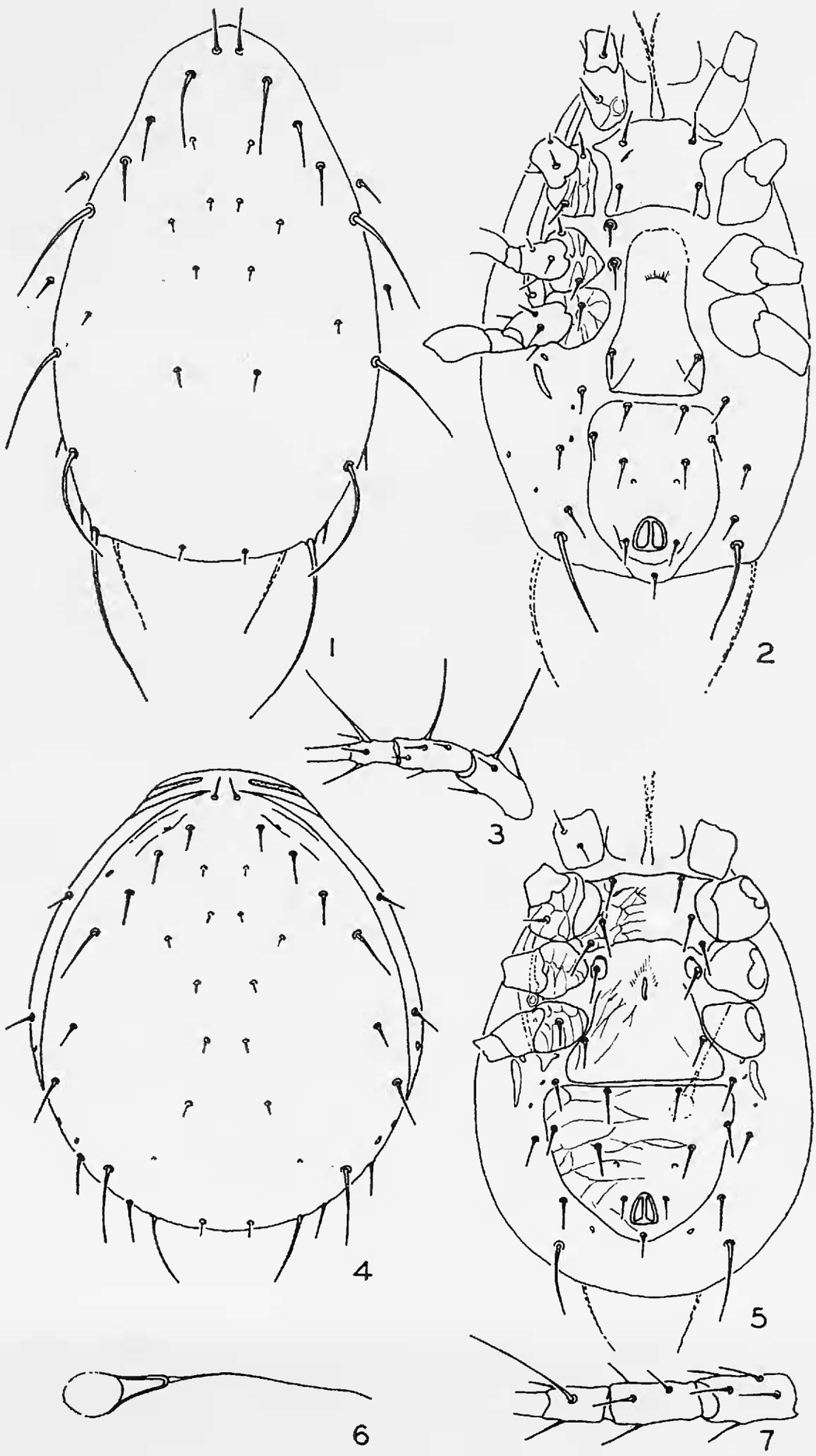
Typhlodromus (Amblyseius) palustris Chant, new species

(Figs. 4–7)

Female.—Length 400 μ; width 285 μ. Body globular. *Dorsal shield* smooth, with 18 pairs of setae, of which nine are in the lateral row. two in the median, and seven in the dorsal (Fig. 4). All setae short; dorsal (D) ones minute. Setae L_2 and L_3 equal, longer than L_1. Seta L_5 shorter than L_6. Setae L_9 and M_2 approximately equal. A distinct pore mesad of M_2. Four heavily sclerotized spots: near setae L_1, L_3, L_6, and L_7. Setae S_1 and S_2 on interscutal membrane. *Sternal shield* reticulated and with three pairs of setae. *Metasternal plates*, one pair, each with a seta. *Genital shield* slightly reticulated, very broad, with a pair of setae. *Peritremal plates* very broad, with posterior end truncate and lying close to coxa IV and anterior end extending to level of seta D_1 (Fig. 4). *Metapodal plates*, four pairs, three minute. *Coxal gland* (Fig. 6) unique with unusually long duct leading from coxa IV to trumpet-shaped distal portion. *Ventrianal shield* (Fig. 5; 140 μ long, 180 μ wide) reticulated, triangular, with lateral margins convex and posterior margin rounded, three pairs of preanal setae, and a pair of pores.

EXPLANATION OF FIGURES

Figs. 1–3, *Typhlodromus (Amblyseius) newelli* Chant. 1, Dorsal shield; 2, ventral surface; 3, leg IV. Figs. 4–7. *T. (A.) palustris* Chant. 4, Dorsal shield; 5, ventral surface; 6, coxal gland; 7, leg IV.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A small plate lying just behind ventrianal shield. Four pairs of setae surrounding ventrianal shield, one (VL_1) moderately long. *Gnathosoma* and *maxillary palps* normal for the genus. Fixed digit of chelicera multidentate. *Coxae* all heavily reticulated. *Leg IV* (Fig. 7) with macroseta on basitarsus.

Male.—Unknown.

Diagnosis.—The presence of seta D_7 makes this species unique among the Phytoseiidae. In some specimens a small seta occurs between the two D_7's but this is probably an aberration. *T. (A.) palustris* keys to *T. (A.) novaescotiae* Chant (1960) and it can be separated from this species as follows: in *T. (A.) palustris* seta L_6 is longer than L_5, D_7 is present, D setae are minute, and the anterior edge of the ventrianal shield is straight and meets the lateral margins acutely; in *T. (A.) novaescotiae*, setae L_5 and L_6 are approximately equal, D_7 is absent, D setae are short but not minute, and the anterior margin of the ventrianal shield is rounded.

Holotype female (C.N.C. No. 6803) and another female were collected at Balch Camp, Fresno County, California, in August, 1956, by Mr. R. O. Schuster. Other records are: one female collected from *Microtus montanus*, Cottonwood Basin, White Mountains, Mono County, California, June, 1954, by Dr. D. Furman; two females collected on marshy ground, Garner Valley, San Jacinto Mountains, California, June, 1956, by Dr. I. M. Newell; one female collected on ladino clover at Ferris Ranch, two miles east of Orland, Glenn County, California, August, 1953, by Dr. A. E. Pritchard.

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